



2019-nCoV Literature Situation Report (Lit Rep)

August 20, 2020

The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to Washington State decision making around COVID-19 response efforts. Included in these Lit Reps are some manuscripts that have been made available online as pre-prints but have not yet undergone peer review. Please be aware of this when reviewing articles included in the Lit Reps.

Key Takeaways

- **Mass testing conducted in 16 prisons and jails from 6 US jurisdictions found a median prevalence of 29% and a median 12-fold increase in SARS-CoV-2 cases identified in facilities compared to earlier symptom-based testing.** [More](#)
- **Results of an ongoing Phase 1 placebo-controlled, dose-escalation trial of two different RNA vaccine candidates among 195 healthy adults showed that two-dose vaccination elicited similar dose-dependent antibody responses for both candidates, with higher responses among younger versus older recipients.** [More](#)
- **Thirty schools and programs of public health in the US are supporting public health agencies in response to COVID-19, despite cuts in funding for graduate student emergency response programs.** [More](#)

Testing and Treatment

- The mass testing conducted among incarcerated or detained persons across 16 prisons and jails from 6 US jurisdictions (April 11-May 20, 2020) identified a total of 8,239 persons with SARS-CoV-2 among 16,392 individuals tested, representing a median 12-fold increase over the number of cases in each facility by earlier symptom-based testing. Prevalence in jails and prisons ranged from 0 to 87%, with a median prevalence of 29%. Median prevalence was three times higher in dormitory-based compared to cell-based housing.
Hagan et al. (Aug 21, 2020). Mass Testing for SARS-CoV-2 in 16 Prisons and Jails — Six Jurisdictions, United States, April–May 2020. MMWR.
<https://doi.org/10.15585/mmwr.mm6933a3>
- Jiang et al. synthesized results from 4 randomized trials including 2,049 individuals hospitalized with COVID-19 and reported that patients receiving 5-day or 10-day treatment courses with remdesivir had significantly better clinical improvement (OR=1.8 and 1.4, respectively) and higher probabilities of clinical recovery (RR=1.5 and 1.2, respectively) compared to patients receiving placebo.
Jiang et al. (Aug 19, 2020). Effectiveness of Remdesivir for the Treatment of Hospitalized Covid-19 Persons: A Network Meta-Analysis. Journal of Medical Virology.
<https://pubmed.ncbi.nlm.nih.gov/32813283>
- *[Preprint, not peer-reviewed]* Taylor-Phillips et al. reviewed 27 websites selling home self-sampling and testing kits for COVID-19 (39 tests in UK and 2 tests in US), of which 23 offered molecular virus



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testing services and 18 offered antibody testing services. They report that 22% tests were provided with the name or manufacturer, 76% included information about when to use, 71% provided test accuracy measures, and 49% provided information about how to interpret results. Nine (39%) websites selling molecular virus tests explained that people who tested positive should self-isolate, and 8 (35%) explained that people testing negative may still have the disease. Twelve (67%) websites selling antibody tests explained that testing positive does not necessarily confer immunity from future infection. Both US websites selling molecular viral tests have approval from the FDA for home sampling during the COVID-19 pandemic and included information about the eligibility checks required prior to purchase or prior to test processing.

Taylor-Phillips et al. (Aug 19, 2020). Information given by Websites Selling Home Self-Sampling COVID-19 Tests An Analysis of Accuracy and Completeness. Pre-print downloaded Aug 20 from <https://doi.org/10.1101/2020.08.18.20177360>

Vaccines and Immunity

- *[Preprint, not peer-reviewed]* Walsh et al. report Phase 1 results of an ongoing dose-escalation clinical trial of two RNA vaccine candidates for SARS-CoV-2 (BNT162b1 and BNT162b2) among 195 healthy adults randomized into 13 groups based on age (18-55 or 65-85 years), vaccine type and vaccine dose. Participants received two injections of either vaccine or placebo 21 days apart. Results showed that the on day 28 (7 days after Dose 2) the SARS-CoV-2–neutralizing geometric mean titers were boosted in both age groups receiving the highest dose of vaccine to 2.8-3.8 times (younger age) to 1.1-1.6 times (older age) the levels present in convalescent sera.
- The authors anticipate expanding the study to up to 30,000 participants from diverse backgrounds in a global Phase 2/3 large-scale safety and efficacy evaluation.

Walsh et al. (Aug 20, 2020). RNA-Based COVID-19 Vaccine BNT162b2 Selected for a Pivotal Efficacy Study. Pre-print downloaded Aug 20 from <https://doi.org/10.1101/2020.08.17.20176651>

- A retrospective cross-sectional study among 123 adults with COVID-19 in Istanbul, Turkey found that the patients with severe disease were less likely to have had a BCG vaccination than patients with mild disease (69% vs 88%), but after adjustment for factors associated with COVID-19 severity, BCG vaccination was not associated with the disease severity.

Aksu et al. (Aug 19, 2020). Factors Determining COVID-19 Pneumonia Severity in a Country with Routine BCG Vaccination. Clinical and Experimental Immunology. <https://pubmed.ncbi.nlm.nih.gov/32813879/>

Clinical Characteristics and Health Care Setting

- Among 300 patients admitted to ICUs at an academic medical center in New York City from March 10 through April 11, 2020, the majority developed acute respiratory distress syndrome requiring mechanical ventilation (91%) and/or vasopressor-dependent shock (78%). Forty-one percent had acute kidney injury (AKI) present upon admission and 36% subsequently developed AKI. The 30-day mortality was 53% overall and 58% among patients receiving mechanical ventilation.

Chand et al. (Aug 19, 2020). COVID-19-Associated Critical Illness-Report of the First 300 Patients Admitted to Intensive Care Units at a New York City Medical Center. Journal of Intensive Care Medicine. <https://doi.org/10.1177/0885066620946692>

Public Health Policy and Practice

- Burns et al. identified that by July 31, 2020, 30 schools and programs of public health in the US were supporting public health agencies in response to COVID-19, primarily through the provision of surge capacity (n=20, 67%), contact tracing (n=19, 63%), and training (n=11, 37%). The authors suggest that future funding should explicitly link public health students to applied public health activities in ways that can be measured to document impacts on public health emergency response and the future public health workforce.

Burns et al. (Aug 19, 2020). Public Health Student Response to COVID-19. Journal of Community Health. <https://doi.org/10.1007/s10900-020-00910-z>

- A systematic review of 15 studies published from Jan 1 to April 30, 2020 reported no empirical epidemiological evidence regarding the effectiveness of automated contact tracing tools, in contrast to manual contract tracing, for identifying contacts or reducing transmission of respiratory viral infections. Four modelling studies estimated that controlling COVID-19 requires a high population uptake (56%-95%) of automated contact-tracing apps along with other control measures. Concerns regarding privacy and equity should be considered.

Braithwaite et al. (Aug 19, 2020). Automated and Partly Automated Contact Tracing: A Systematic Review to Inform the Control of COVID-19. The Lancet Digital Health. [https://doi.org/10.1016/S2589-7500\(20\)30184-9](https://doi.org/10.1016/S2589-7500(20)30184-9)

Other Resources and Commentaries

- [Safely Reopening Schools—Learning Amid a Pandemic](#) – JAMA Health Forum (Aug 19)
- [Behavioural Manipulation - Key to the Successful Global Spread of the New Coronavirus SARS-Cov-2?](#) – Journal of Medical Virology (Aug 19)
- [Chest CT for Rapid Triage of Patients in Multiple Emergency Departments during COVID-19 Epidemic: Experience Report from a Large French University Hospital](#) – European Radiology (Aug 19)
- [COVID-19 Infection and Cardiac Arrhythmias](#) – Trends in Cardiovascular Medicine (Aug 16)
- [The Remote Misses of COVID-19](#) – Annals of Internal Medicine (Aug 19)
- [Effects of Case- and Population-Based COVID-19 Interventions in Taiwan](#) – medRxiv (Aug 19)
- [Anaemia Is Associated with Severe Illness in COVID-19: A Retrospective Cohort Study](#) – Journal of Medical Virology (Aug 19)
- [Spectrum of Virucidal Activity from Ultraviolet to Infrared Radiation – Photochemical & Photobiological Sciences](#) (Aug 19)

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